REMARKS

Claims 1-2, 4-5 and 7-17 remain in this application. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, and allowance of the application is requested.

Rejection under 35 U.S.C. §103

In Office Action, on page 3, claims 1-4 and 6-13 and 15-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wilinski et al. (WIPO Publication No. 02/095680; hereinafter "**Wilinski**") in view of Zheng et al. (0. Zheng, R. Chellappa; Estimation of Illuminant Direction, Albedo, and Shape from Shading; IEEE Transactions of Pattern Analysis and Machine Intelligence, Vol. 13, July 1991; hereinafter "**Zheng**"), Redert et al. (WIPO Publication No. 2004/066212; hereafter "**AAPA**") and Wu et al. (Z. Wu, L.Li; A Line-Integration Based Method for Depth Recovery from Surface Normals; IEEE, November 1988; hereinafter "**Wu**"). *With respect to claims 3 and 6, said claims were previously canceled in the response filed 4/28/2010, thus the rejection thereof is moot.* With respect to claim 1, Applicant respectfully traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness.

Independent claim 1 recites, inter alia, the specific feature limitation of "computing a *cost value* for a *first one* of the pixels of the image by *accumulating differences* between luminance and/or color and/or color component *values* of pairs of neighboring connected *pixels* at *transitions* which are *disposed* on *the path from* the *first one* of the pixels to a *second one* of the pixels, wherein the *second one* of the pixels belongs to *a predetermined subset* of the pixels of the image; and *assigning* a *depth value* corresponding to the *first one* of the pixels *on basis of* the *computed cost value*" (emphasis added). Support for claim 1 (as well as claims 15-17) can be found in the specification at least on page 2, lines 11-25; page 6, line 30-34; page 7, line 1-9, and 20-23; page 8, lines 18-22 (equation 1); page 9, lines 21-24; and FIG. 1.

Applicant submits that neither **Wilinski**, **Zheng**, **AAPA** nor **Wu** discloses at least the aforementioned specific feature limitation of independent claim 1. In particular, it is submitted that the citation to **Wu** and **AAPA** does not remedy the conceded deficiency in the citation to both **Wilinski** and **Zheng**. Accordingly, without conceding the propriety of the asserted combination, the asserted combination of **Wilinski**, **Zheng**, the combination of **AAPA** and **Wu** is likewise deficient, even in view of the knowledge of one of ordinary skill in the art.

The Office Action concedes that, with respect to the citation of **Wilinski** and **Zheng**, neither **Wilinski** nor **Zheng** teach "that the measurements for depth are taken along a path which results in a *cost function* for each pixel which is being examined for depth, where the *cost value* comprises respective measures of a *number and extent* of *transitions* in luminance and/or color and/or color components for *pixels* of the image on a *path* related to the spatial disposition of objects of the image, wherein said computing includes computing a *cost value* for a *first one* of the pixels of the image by *accumulating differences* between luminance and/or color and/or color component *values* of *pairs* of neighboring connected *pixels* at *transitions* which are *disposed* on *[the] path from* the *first one* of the pixels *to* a *second one* of the pixels, wherein the *second one* of the pixels belongs to *a predetermined subset* of the pixels of the image; and *assigning* a *depth value* corresponding to the *first one* of the pixels *on basis of* the [*computed*] *cost value*" (emphasis added) (See Office Action, page 6, line 4-15).

Nonetheless, the Office Action rejects independent claim 1, contending that **AAPA** and **Wu** provides teaching which renders this necessary disclosure obvious (See Office Action, 6, line 15 – page 8, line 7). The Office Action (on page 6, line 15 – page 8, line 7) states that: "AAPA however teaches that it is known in the art to provide algorithms that result in relative depth orderings, and further, to supply depth values as a first derivative of the depth value. The examiner, therefore, considers obvious that, since the depth determination

disclosed in Zheng is a relative depth between the two segments delimitated by the contour, that is the change in depth across two segments, one of ordinary skill in the art would have understood that Zheng provides a qualitative depth value that comprises the first order derivative of the depth as taught by AAPA. One of ordinary skill in the art at the time of the invention would therefore find it obvious to obtain global depth information for the pixels in the image provided with segment and relative depth information as taught by Wilinski and Zheng through the integration of the first order derivative of depth provided. In order to do this, the Examiner considers that it would have been obvious to one of ordinary skill in the art at the time of the invention to examine the different transitions along a path from the pixel to one of the edges of the image and to sum these differences which translate in depth differences as taught by Zheng. Reconstructing shape information from shading through the use of paths is well known in the art, as shown, for example in Wu (see abstract). … The Examiner also further notes that the change in depth between pixels along the path is obtained independently from the method disclosed in Wu, by a shape from shading algorithm, see section III., first par., and further, that the change in depth over space disclosed in Wu, since depth is obtained from shape from shading indeed constitutes a change in luminance over space, as taught by Zheng. See also, p. 3, lines 10-16 in the Applicant's specification for the equivalence of accumulation and integration. Using a line integral such as that taught by Wu would have been obvious to one of ordinary skill in the art in view of Zheng, Wilinski and AAPA, as it is well-known in the art, the integral is the reverse of the derivative, and therefore, the line integral across boundaries that provide a slope of depth naturally provides the total depth difference between the beginning of the line and the end, again as is well-known in the art." This contention is respectfully traversed.

Wu relates to a line-integration based method for depth recovery from *surface normals*. In the method of Wu, an *arbitrary depth* must be first *preset* for a point somewhere in the image, then path-independent line integrals are computed to get the relative depths at every point in the image (emphasis added) (See Wu, abstract). In addition, the method of **Wu** supposes that "the local surface orientation of an object … is known at every point (x,y) in an image" and that "the actual shape of the object can

be described using its depth or its height, z, above the xy-plane." (See Wu, page 591, at column 2, II.) Accordingly, it is respectfully submitted that **Wu** requires a presetting of an arbitrary depth to a point in an image for the computation of the path-independent line integrals, which is different and teaches away from that of the specific feature limitation of independent claim 1. Claim 1 *inherently* does not require any presetting of an arbitrary depth, but that of "computing a *cost value* for a *first one* of the pixels of the image by *accumulating differences* between luminance and/or color and/or color component *values* of pairs of neighboring connected *pixels* at *transitions* which are *disposed* on *the path from* the *first one* of the pixels to a *second one* of the pixels, wherein the *second one* of the pixels belongs to *a predetermined subset* of the pixels of the image". Accordingly, **Wu** teaches away from that of independent claim 1. Furthermore, in view of the above, **Wu** does not provide a teaching which renders obvious or remedies the aforementioned, conceded deficiency in the citation to **Wilinski** and **Zheng**. Thus, a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Claims 2, 4 and 7-13 depend from and further limit independent claim 1 and therefore are allowable as well. The 35 U.S.C. §103(a) rejection thereof has now been overcome. Withdrawal of the rejection is respectfully requested.

Claims 15, 16 and 17 contain limitations similar to those of claim 1. Accordingly, for similar reasons as stated with respect to overcoming the rejection of claim 1, claims 15, 16 and 17 are believed allowable and an early formal notice thereof is requested. The 35 U.S.C. § 103(a) rejection thereof has now been overcome. Withdrawal of the rejection is respectfully requested.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over **Wilinski** in view of **Zheng**, **AAPA** and **Wu** as applied to claim 1 above, and further in view of Cahill et al. (U.S. Patent Publication No. 2004/0062439, hereinafter "**Cahill**"). Applicant respectfully traverses this rejection for at least the following reason. Claim 5 depends from and further limits allowable independent claim 1 and therefore is allowable as well. The 35 U.S.C. §103(a) rejection thereof has now been overcome. Withdrawal of the rejection is requested.

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over **Wilinski** in view of **Zheng**, **AAPA** and **Wu** as applied to claim 12 above, and further in view of Nakatsuna et al. (U .S. Patent Publication No. 2002/0154116; hereinafter "**Nakatsuna**"). Applicant respectfully traverses this rejection for at least the following reason. Claim 14 depends from and further limits dependent claim 12, which is dependent from allowable independent claim 1 and therefore is allowable as well. The 35 U.S.C. §103(a) rejection thereof has now been overcome. Withdrawal of the rejection is requested.

Conclusion

Except as indicated herein, the claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or a continuation application. In addition, the Office Action contains various statements characterizing the claims, the specification, and the prior art. Regardless of whether such statements are addressed by Applicant, Applicant refuses to subscribe to any of these statements, unless expressly indicated by Applicant.

It is clear from all of the foregoing that independent claims 1, 15, 16 and 17 are in condition for allowance. Claims 2, 4-5 and 7-14 depend from and further limit independent claim 1 and therefore are allowable as well.

The matters identified in the Office Action of June 18, 2010 are now believed resolved. Accordingly, the application is believed to be in proper condition for allowance. An early formal notice of allowance of claims 1-2, 4-5 and 7-17 is requested.

Respectfully submitted,

By: /Michael J. Balconi-Lamica/

Michael J. Balconi-Lamica
Registration No. 34,291
for Edward Goodman, Reg. No. 28,613

Dated: September 13, 2010
Philips Intellectual Property & Standards
345 Scarborough Road
Briarcliff Manor, New York 10510
Telephone: 914-333-9611
Facsimile: 914-332-0615
File: NL050010US1

a-32658.408